

Defence OR Symposium



# Scenario Development for Information Operations (IO) Experimentation

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## IO Definition (US Doctrine JP3-13)

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**information operations.** Actions taken to affect adversary information and information systems while defending one's own information and information systems.

**information.** 1. Facts, data, or instructions in any medium or form. 2. The meaning that a human assigns to data by means of the known conventions used in their representation. (Joint Pub 1-02)

**information system.** The entire infrastructure, organization, personnel, and components that collect, process, store, transmit, display, disseminate, and act on information. (This term and its definition modifies the existing term and definition and is approved for inclusion in the next edition of Joint Pub 1-02.)

# Scenario Definition

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Scene – from theatrical roots

Situation – within defence context

Perspectives – within a defence and civil seminar context

- ♦ Forecast
- ♦ Stories
- ♦ Pathways

## Example Conventional Scenario



### ***JWID 02 - SCENARIO OVERVIEW***

- **PKO under UN Chapter VII**
  - *Peace enforcement in island country*
  - *Four phase campaign*
  - *CTF operations using Lead Nation concept*
- **Forces must be sourced from outside Pacific theater**
- **Allows the employment of:**
  - *3 Maritime Task forces*
  - *A Division (+) Land Force (One Amphibious Landing Force)*
  - *Air Force (Minimum of three Wings)*
  - *Psyops Task Force*
- **Options to develop HA dimension of the scenario**

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JWID TASK FORCE

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## Example C2W Scenario - Abstemia

### SCENARIO

1. You are members of a newly formed C2W staff in a 4-Star NATO HQ. Within your AOI is a renegade country called DYSLEXIA, whose government has been making threats to invade and appropriate a region of its neighbouring country, ABSTEMIA, which is on the verge of joining NATO.

2. You have been briefed by your superiors to develop a C2W plan for use in either **dissuade** the Dyslexian government from invading ABSTEMIA, or to defeat the Dyslexian capabilities if they do. The plan must be achievable by NATO without significant military action. In any event, the potential risks to the lives of NATO forces are to be minimised. This is the purpose of this brief,

ways in which you could bring about the desired outcome. You are to develop **five key elements of C2W**. Each group will present their proposals, which should clearly explain the rationale for each element. There is no correct answer, but each response will be discussed.

Electronic Warfare (EW)

Psychological Operations (PSYOPS)

Deception

Operational Security (OPSEC)

Destruction

### Campaign Planning Process Steps

C2W Concept

**Nodal Analysis**

Effects/Elements/Tasking

Feedback and Battle Damage

Assessment (BDA)

# Scenario Framework

	<b>Environment</b>	<b>Mission Objectives</b>	<b>Mission</b>
<b>External Factors</b>	<b>Economic/Military</b>	<b>Mission Constraints &amp;</b>	<b>Military Scope</b>
	<b>Political/Social</b>	<b>Limitations</b>	<b>Intensity</b>
	<b>Historic Situation</b>	<b>ROE</b>	<b>Tasks</b>
	<b>Joint Command</b>		
	<b>National Security Interests</b>		
<b>Capabilities of Actors</b>	<b>Organisation, Order of Battle, C2, Doctrine, Resources, Lessons Learned</b>		
	<b>Weapons</b>		
	<b>Logistics</b>		
	<b>Skill</b>		
	<b>Morale</b>		
	<b>Friendly Forces   Adversary Forces   Neutral Forces   Non-Combatants</b>		
<b>Environment</b>	<b>Geography/Region/Terrain</b>		
	<b>Climate/Weather</b>		
	<b>(Civil) Infrastructure (e.g. Transportation, Telecommunications, Energy)</b>		

## Scenario Framework – Change of Emphasis

<b>External Factors</b>	<b>Environment</b>	<b>Increased contextual build up of History and Current affairs</b>
	<b>Economic/Military</b>	
	<b>Political/Social</b>	
	<b>Historic Situation</b>	
<b>Capabilities of Actors</b>	<b>Organisation, Order of Battle</b>	<b>Increased focus on social and organisational networks including C2, skill and morale. Reduced emphasis on ORBATs, and weapons.</b>
	<b>Weapons</b>	
	<b>Logistics</b>	
<b>Environment</b>	<b>Skill</b>	
	<b>Morale</b>	
	<b>Friendly Forces    Adversaries</b>	
<b>Environment</b>	<b>Geography/Region/Terrain</b>	<b>Increased focus on social and organisational networks including C2, skill and morale. Reduced emphasis on ORBATs, and weapons.</b>
	<b>Climate/Weather</b>	
	<b>(Civil) Infrastructure (e.g. roads, bridges, ports, etc.)</b>	



## Proposed Scenario Framework for IO

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The framework is a set of processes and placeholders designed to support the design, development and delivery of wargame or exercise related scenario information.

Principal components of the framework are:

- **Scenario Elements** - Players, Circumstance, Time frame, History
- **Guidance Material** - Definition(s), Examples, Summaries
- **Development Support** - Focus, Design, Integration, Delivery, Application

## Scenario Development Support – Focus & Design

**Focus** : is used to support the integration and construction of a story incorporating the overall needs for an exercise.

**Design** : is used as a deliberate process to ensure the requirements are expressed in the scenario.

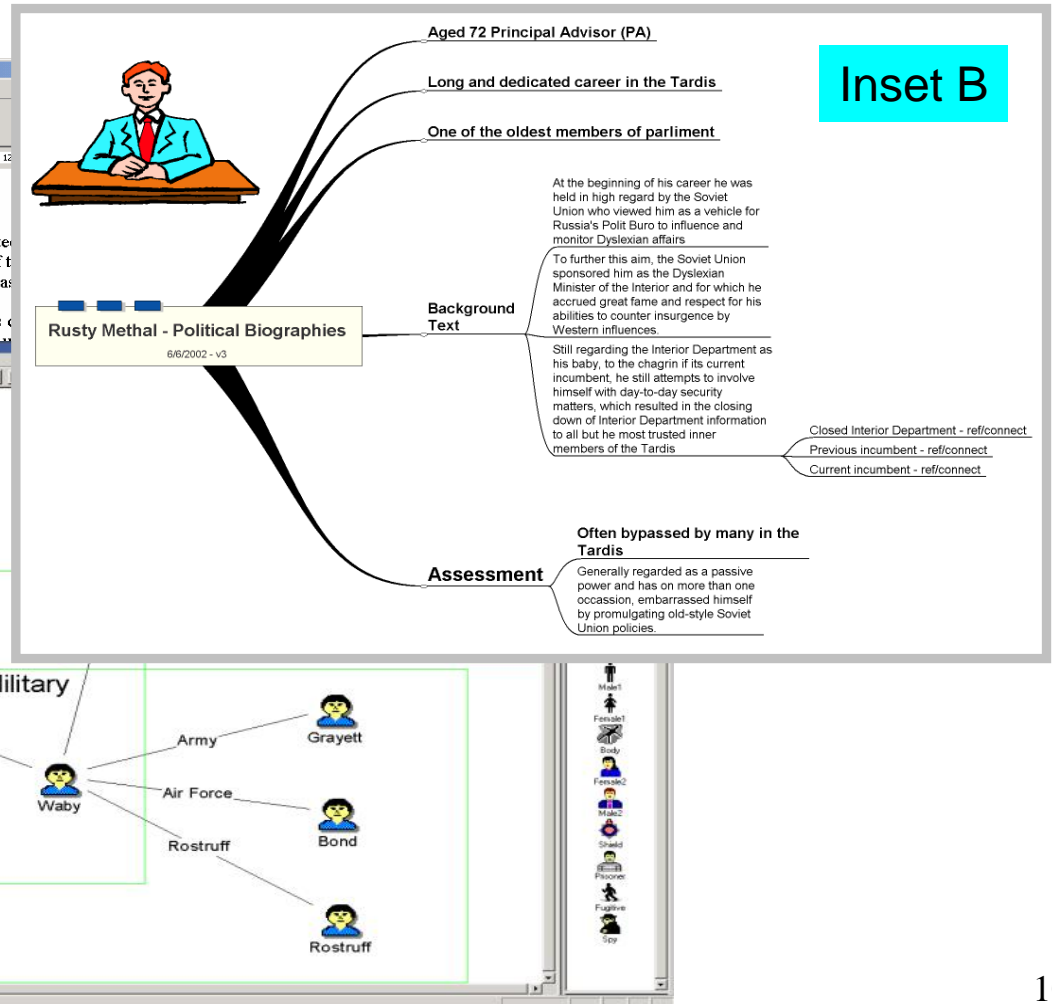
# Scenario Development Support – Integration and Delivery

**Inset A**

**POLITICAL BIOGRAPHIES**

4. **Rusty Methal - Aged 72 (Principal Advisor (PA))** - Appointed dedicated career in the Tardis, Methal is one of the oldest members of the Tardis. Often bypassed by many of the Tardis, he is generally regarded as a passive power. On more than one occasion, embarrassed himself by promulgating old-style Soviet Union policies. At the beginning of his career he was held in high regard by the Soviet Union who viewed him as a vehicle for Russia's Polit Bureau to influence and monitor Dyslexian affairs. To further this aim, the Soviet Union sponsored him as the Dyslexian Minister of the Interior and for which he accrued great fame and respect for his abilities to counter insurgency by Western influences. Still regarding the Interior Department as his baby, to the chagrin of its current incumbent, he still attempts to involve himself with day-to-day security matters, which resulted in the closing down of Interior Department information to all but the most trusted inner members of the Tardis.

5. **Lex Luther** - Age 25. Luther's background and



**Inset C**

# Scenario Development Support – Application

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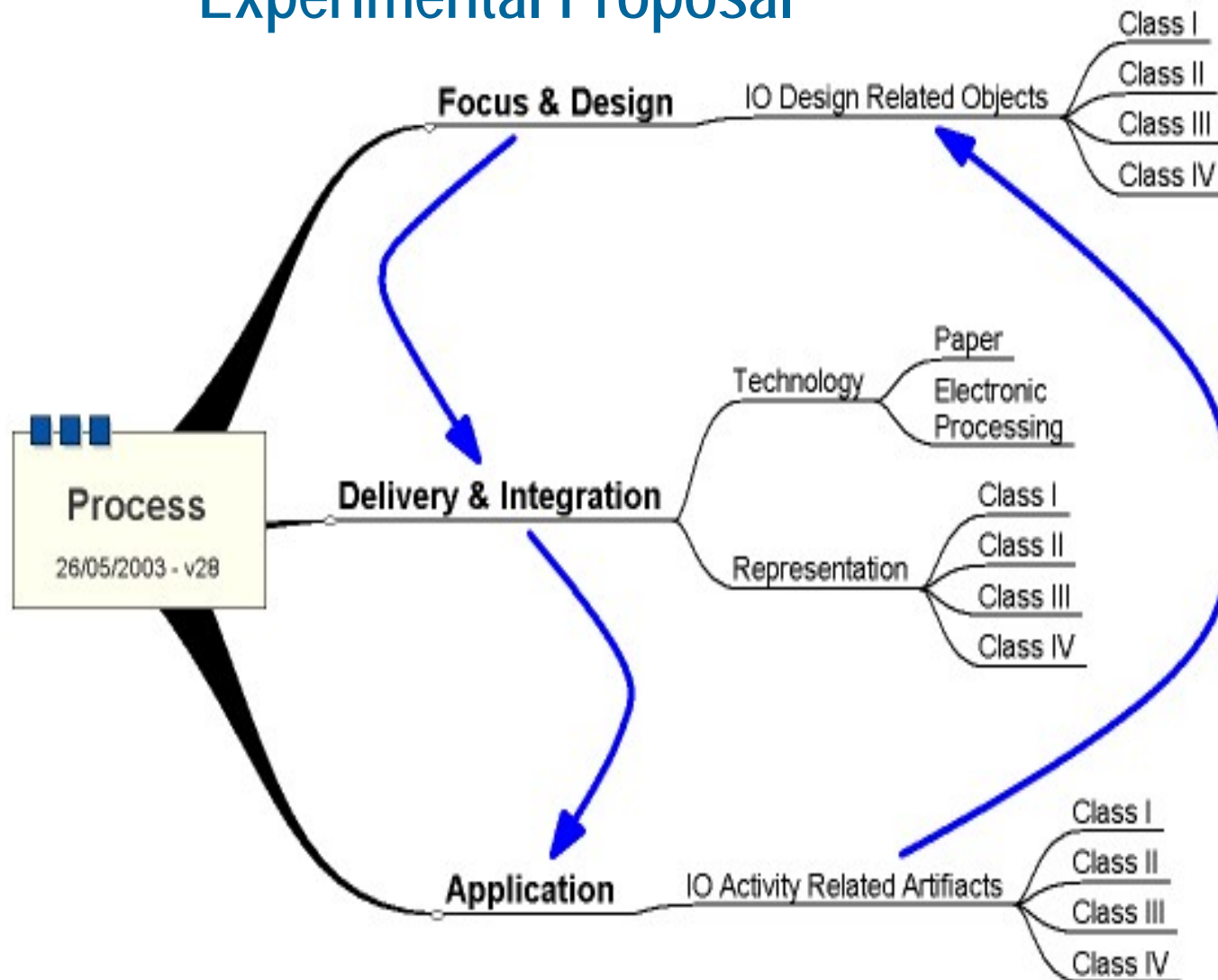
Application:

→ Triggers

→ Activity

→ Experimental Observations

# Experimental Proposal

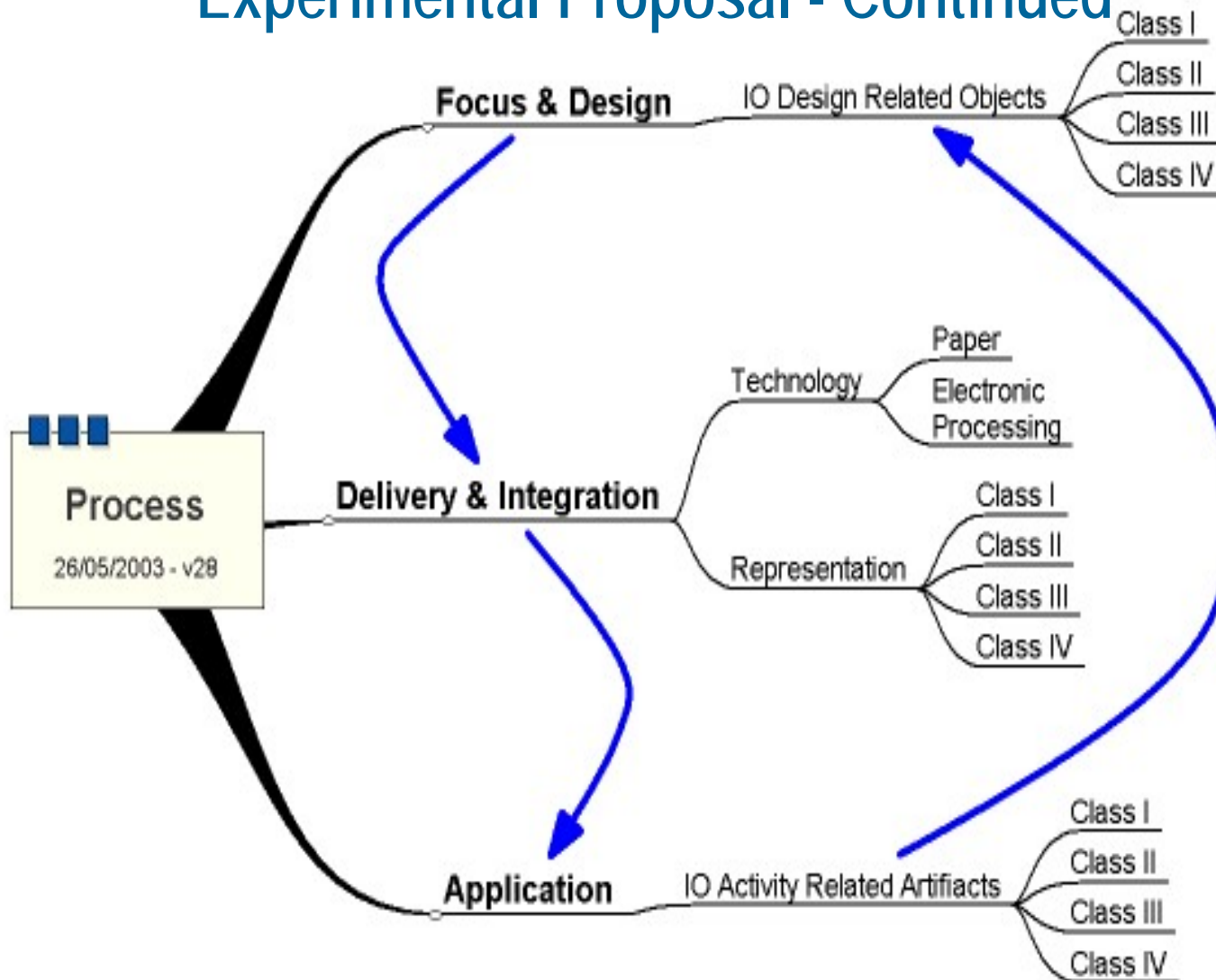


1. Are these important ?

2. Are these available ?

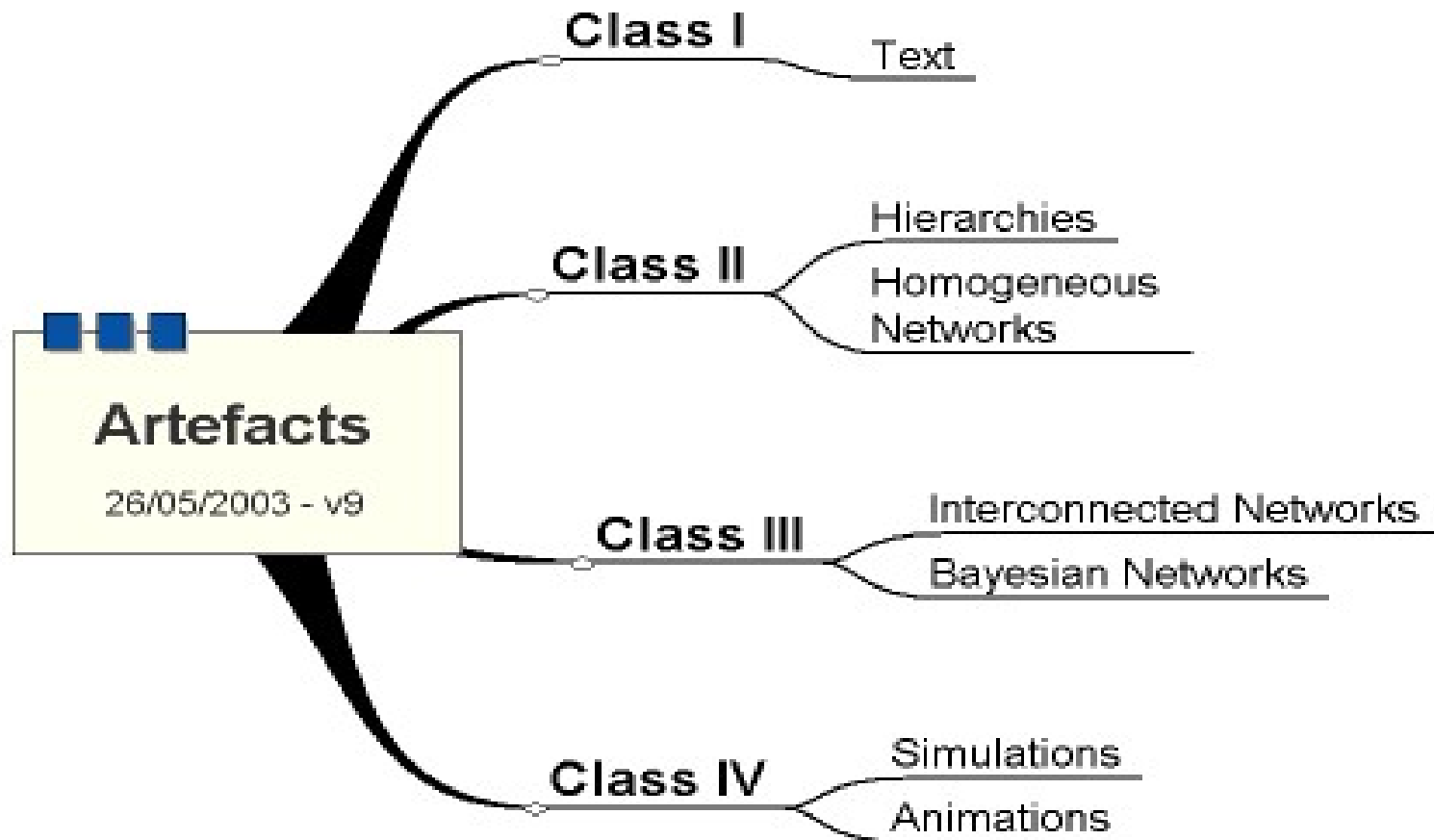
3. Are these the same ?

## Experimental Proposal - Continued

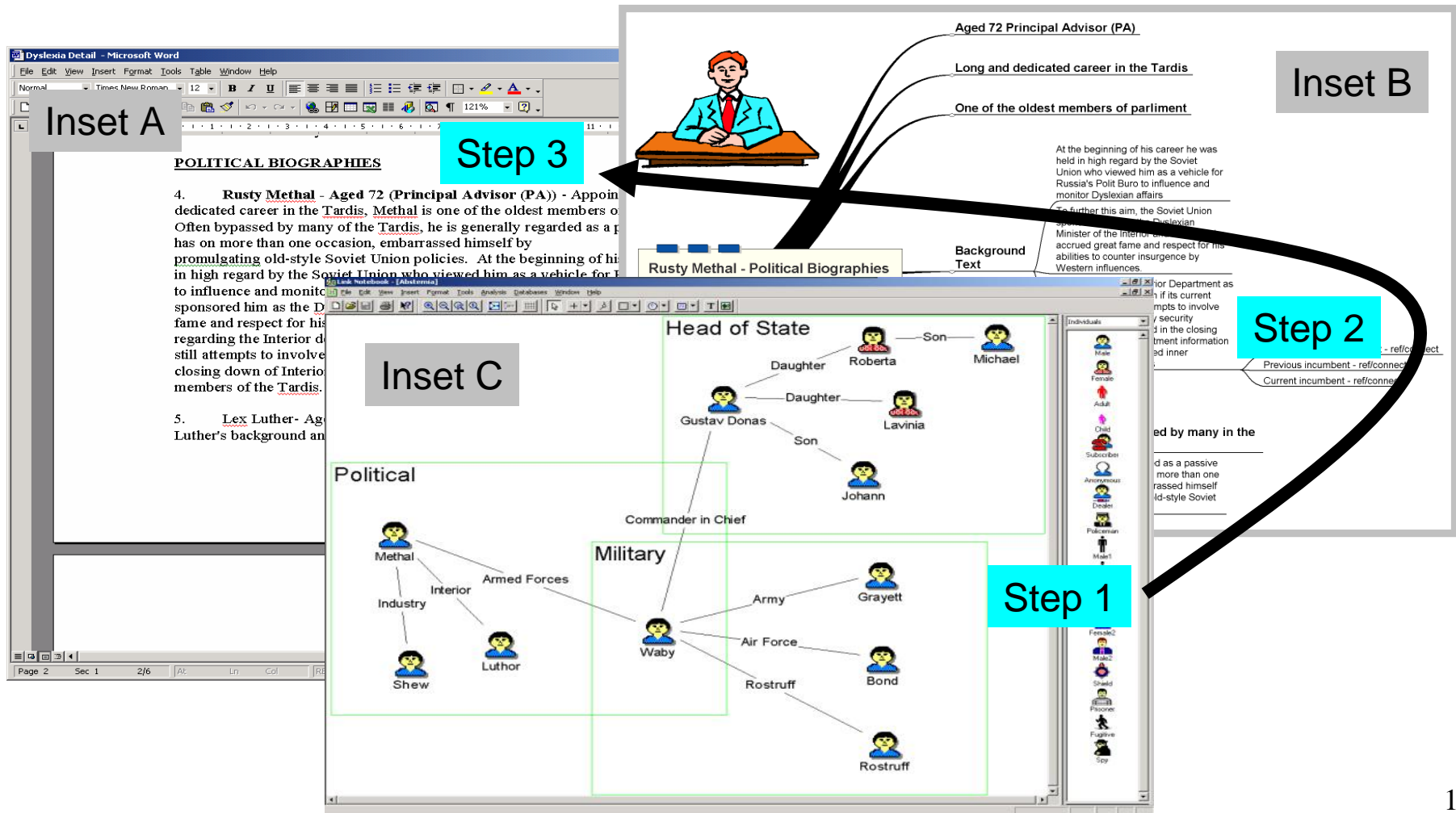


1. Are these important ?
2. Are these available ?
3. Are these the same ?

# Artefact Classification



# Example Encoding Process





## Specific Measures

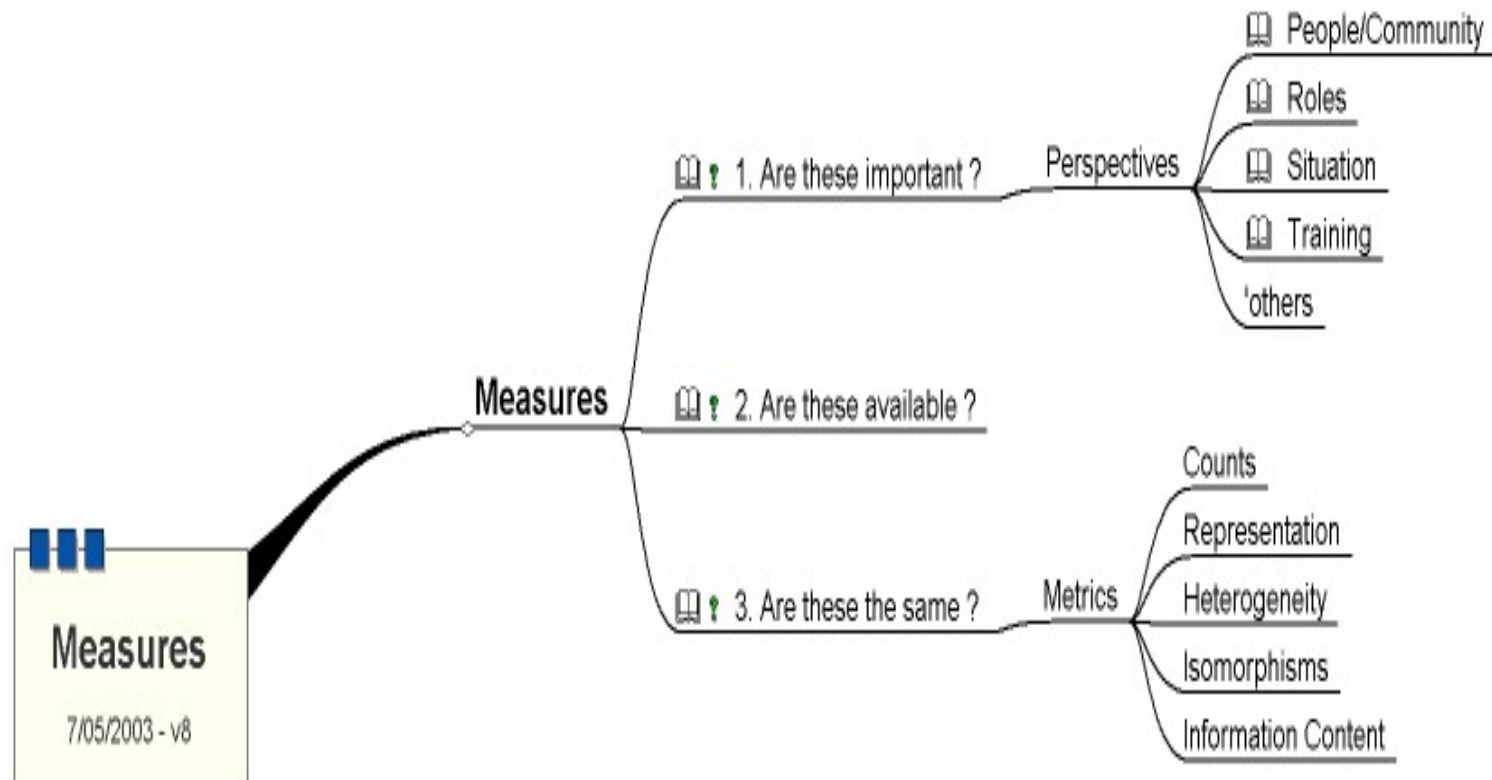
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*Are these (network representations) **important** (to IO staff, in the conduct of their work)?*

*Are these (information required to address IO specific questions) **available** (in a form suitable for analysis)?*

*Are these (network representations constructed by IO staff) **the same** (as those encoded in the scenario design process)?*

# Network Measures and Metrics



## Conclusion

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**Scenarios** - Tailoring, Framework, Families of Scenario

**Experiments** - Measures, Humans, Objectives

**Networks** - Importance, Encoding Issues, Measures

**Further Work** – Broader experimentation incorporating greater allowance for human social activity in planning and decision making activities.



Questions ?